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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,536	12/29/1999	QINGYU ZENG	24707A	2359

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OWENS CORNING
2790 COLUMBUS ROAD
GRANVILLE, OH 43023

EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/474,536

Applicant(s)

ZENG ET AL.

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 15-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 15-18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the appeal brief filed on February 18, 2005, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

2. A new ground of rejection is included herein to reject claims 22 and 24 over the prior art of record.

3. Applicant's arguments filed February 18, 2005 have been fully considered but they are not persuasive.

a. With regards to the rejection of claims 22 and 24 under 35 U.S.C. 112, first paragraph, as containing matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. It is noted that the Specification discloses that the preferred fibers for use as the primary fibers 16 are polymer fibers and discloses as a preferred type of primary fibers are made of

polyethylene terephthalate (PET). The phrase “in which the primary fibers are polymer fibers **other than polypropylene**” is considered new matter, because this negative limitation has no expressed support for the exclusion of polypropylene. It is the Examiner’s interpretation that the term “polymer” includes a vast list of macromolecules such as polymers of the type of:

- I. Inorganic siloxane, sulfur chains, black phosphorus, boron-nitrogen, silicones
- II. Organic: Natural, Synthetic such as thermoplastic elastomers and thermosetting elastomers; and Semisynthetic celluloses.

Further, the term also includes inorganic polymers, electroconductive polymers, among others. (as defined in Hawley’s Condensed Chemical Dictionary, Twelfth Edition) Applicants argue that claims 22 and 24 provide “that the primary fibers are polymer fibers other than polypropylene”, a narrower subset. It is the Examiner’s position that the term “polymer” encompasses a long list of materials with different properties and it is not possible, based on the present disclosure, to find that by reciting “polymer fibers” one of ordinary skill in the art would be suggested to exclude polypropylene from the vast list of materials that the term includes in order to provide a “narrower subset”.

- b. With regards to rejections over prior art of claims 22 and 24, it is noted that the WEINLE et al. reference (applied in previous office action), teaches the use of polyethylene terephthalate fibers as the primary fibers.
- c. With regards to arguments regarding the heating of binder fibers to a temperature sufficient to soften the binder component and not the principal component of the

bicomponent polymer binder fibers; Applicants cite the book "Modern Polyesters: Chemistry and Technology of Polyesters and Copolyesters" (Exhibit A) to describe bicomponent fibers. The portion cited by Applicants in the appeal brief relates to the manner in which this fibers are produced and not to their application in fabrics. Applicants are directed to the second paragraph of the same section from page 427 of that book that is reprinted immediately below for the convenience of Applicants.

A popular application [of sheath-core bicomponent fibers] is to use sheath material with a lower melt point than the core. A fabric (nonwoven or conventional) can be formed from such fibers, and then heated to a temperature sufficient to melt the sheath to bond the fibers together. (Figure 12.17). Since the core component is not melted, the fused fiber retains its integrity and strength. (John Scheirs et al. eds., 2003)

Therefore, it is the Examiner's position that the bicomponent binder fibers are used in the manner described above and that heat is to be provided to binder fibers in order to melt the sheath to bond the fibers together.

It is noted that SWAN et al. teach the use of bicomponent binder fibers which are known to have two components and the sheath component (the adhesive polymer) is known to have a lower softening temperature that provides with the type of bonding aimed by applicants. A heating step that will activate this type of fibers is well known in the art in order to produce the bonding by activating the adhesive polymer in the sheath of the bicomponent fiber while the core is the supporting component and has a higher softening temperature. It is the Examiner's position that SWAN et al. does provide the structure claimed herein and the application of a heating step is implied with the use of this type of fibers as binding fibers in a nonwoven web. The Examiner further provides

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the EP 0538047 A1 reference as evidence to support this position. The EP 0538047 A1 reference is directed to nonwoven material containing bicomponent synthetic fibers having a thermoplastic component with a lower softening point component, such as a sheath-core bicomponent fiber and teaches exposing the fibers to a bonding temperature sufficiently high to soften the lower softening point component of the bicomponent fibers and to obtain a high-loft nonwoven material through inter-fiber contact points. (Abstract)

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as containing matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase “ in which the primary fibers are polymer fibers **other than polypropylene**” is new matter, because there is not expressed support for the negative limitation in the specification. *Ex Parte Grasselli*, 231 USPQ 393.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-9, 15-18, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by SWAN et al. (US 5,773,375) further evidenced by CAREY et al. and EP 0538047 A1 as stated in previous action.

SWAN et al. discloses an acoustical insulation web laminate designed for use in a motorized vehicle that comprises: a) a nonwoven acoustical insulation web 15 comprising thermoplastic melt-blown micro fibers, which is equated to the present "blanket" of fibers, and b) a second layer, which is equated to the present facing material, laminated to the acoustical insulation web to form the laminate, wherein portions of the acoustical insulation web and the second layer can be thermally consolidated to form reduced thickness areas which are of a thin gauge relative to other portions of the laminate. (Column 3, lines 36-45) The reference also teaches that the lamination of film 14 to the web 15 composite can be done by using an adhesive. (Column 6, lines 29-32) SWAN et al. also teaches the use of binder fibers in the web. (Column 4, lines 31-34) Typical binder fibers include bicomponent binder fibers, which have an adhesive component, and a supporting component arranged in a coextensive side-by-side, concentric sheath-core or elliptical sheath-core configuration. The Examiner equates the adhesive component of the bicomponent binder fibers to the binder component polymer component of the present invention and the supporting component of the bicomponent binder fibers to the principal polymer component of the present invention. The melt-blown polypropylene fibers of SWAN et al. are equated to the primary fibers of the present invention. (Column 4, lines 31-56)

The reference further teaches that the thickness of the acoustical insulation web is in the range of about 0.5 cm to about 15 cm, preferably is at least about 2 cm, more preferably at least about 7 cm. (Column 5, lines 23-25) On Figure 4, the reference shows the laminate including a

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water barrier layer such as a planar thermoplastic film 14 formed of a relatively thin thermoplastic material such as polypropylene. (Column 5, lines 63-67 thru Column 6, lines 1-2). The thickness of the film 14 is in the range of between about 20 microns to about 250 microns. (Column 6, lines 6-9). The reference further teaches that the laminate 10 is typically pressure molded in a heated die to form reduced thickness areas 17 along its outer periphery 16, of approximately 508 microns (0.0508 cm) in thickness. The reduced thickness areas 17 promote the integrity of the laminate 10 in those areas and permit the laminate 10 to be easily handled by vehicle manufacturers during assembly operations. (Column 6, lines 35-47) The reduced thickness areas 17 of the SWAN et al. reference are equated to the presently claimed densified perimeter flange.

With regards to claim 4, refer to the exemplary values presented by the Examiner in section 2 of the present office action, which show that the SWAN reference teaches the use of reduced thickness areas (“flanges”) with a thickness less than about 15 percent of the thickness of the web (“blanket”).

With regards to claims 6-7 and 16-17, SWAN et al. further teaches that the laminate 10 can include an optional scrim layer secured to the web opposite the film. The reference teaches that the optional scrim layer increases the integrity of the laminate. The reference further teaches that a second optional scrim layer can be secured between the film and the web. (Column 6, lines 14-34) Therefore, when the second optional scrim layer is secured between the film and the web, this embodiment will provide the claimed facing material comprising a scrim and a film.

With regards to claims 8 and 18, it is noted that SWAN et al. is silent with respect to the claimed static coefficients of friction. However, it is reasonable to presume that the claimed

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static coefficient of friction is inherent to the invention SWAN et al. Support for said presumption is found in the use of the same starting materials (i.e. includes meltable binder fibers in addition to melt-blown fibers in the acoustical web and a liquid barrier thermoplastic film), like processes of making the articles (i.e., pressure molding), and the production of similar end-products (i.e., acoustical insulation, etc...). The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

With regards to the binder component with a softening point lower than the softening of the principal component, it is noted that SWAN et al. teaches the use of a binder fiber with a sheath-core structure having a core of crystalline polyethylene terephthalate surrounded by a sheath of an adhesive polymer formed from isophthalate and terephthalate esters. (Column 4, lines 53-56) It is well known that crystalline polymers have a higher melting point than adhesive components in a bicomponent fiber. By having a difference in melting point (or softening point) this type of bicomponent fibers can be used as binder or bonding fibers, therefore the difference in softening point is inherent to the bicomponent binder fibers taught by SWAN et al. This is further evidenced by CAREY, Jr. et al. (US 4,837,067) cited by the SWAN et al. on Column 4, lines 49-51. CAREY, Jr. et al. explicitly says that the adhesive component of thermally bonding fibers must be thermally activatable (i.e. meltable) at a temperature below the melt temperature of the structural fibers of a batt. CAREY, Jr. et al. also teaches the use of bicomponent bonding fibers with structures such as a sheath-core. (Column 4, lines 27-42) It is the Examiner's position that SWAN et al. does provide the structure claimed herein and the application of a heating step is implied with the use of this type of fibers as binding fibers in a nonwoven web. The Examiner further provides the EP 0538047 A1 reference as evidence to further support this

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position. The EP 0538047 A1 reference is directed to nonwoven material containing bicomponent synthetic fibers having a thermoplastic component with a lower softening point component, such as a sheath-core bicomponent fiber and teaches exposing the fibers to a bonding temperature sufficiently high to soften the lower softening point component of the bicomponent fibers and to obtain a high-loft nonwoven material through inter-fiber contact points. (Abstract

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11, 20, **22** and **24** are rejected under 35 U.S.C. 103(a) as being unpatentable over SWAN et al. (US 5,773,375) as applied to claims 1-9 and 15-18 above, and further in view of WEINLE et al. (US 4,840,832).

While SWAN et al. teaches the use of bicomponent binder fibers, it fails to teach the use of polyethylene terephthalate (PET) fibers as the primary fibers and the use of PET in the core and sheath of the bicomponent binder fibers.

WEINLE et al.'s invention is directed to an automobile headliner formed from a batt of polymeric fibers compressed and molded that imparts acoustical and thermal insulation. (Column 1, lines 5-14) The headliner is formed from a batt of polymeric fibers and the polymeric fibers preferably include potentially adhesive binder fibers. (Column 2, lines 9-10) The reference teaches the use of bicomponent fibers having a relatively low melting polymer

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binder component and a higher melting polymer strength component. (Column 2, lines 15-17) The reference teaches a sheath-core bicomponent construction wherein the core is formed of a relatively high melting polyethylene terephthalate polymer (PET) and the sheath comprises a PET co-polymer having a much lower melting temperature. (Column 4, lines 23-28) The polymer fibers, which comprise the batt, are formed of a thermoplastic polymer, such as polyethylene terephthalate (PET). (Column 4 lines 6-7)

Since both, SWAN et al. and WEINLE et al. are directed to acoustical insulation for vehicles, the purpose disclosed by WEINLE et al. would have been recognized in the pertinent art of SWAN et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the acoustical insulation of SWAN et al. and provide it with polyethylene terephthalate fibers to form the batt (or web) and bicomponent fibers with a core of PET and a sheath of PET with the motivation of providing an insulation material with a molded batt of fibers that remains highly deformable and resilient as disclosed by WEINLE et al. (Column 3, lines 56-68).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

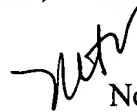
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

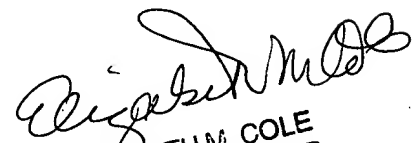
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Norca L. Torres-Velazquez
Examiner
Art Unit 1771

May 12, 2005



ELIZABETH M. COLE
PRIMARY EXAMINER